

REMARKS

The application now contains claims 3-7, 10, 14, 15, 23, 24, and 29-42. Claims 5, 7, 10, 14, 23 and 24 have been put into independent form. In essence, these claims have not been amended, except that claim 23 has been amended to make explicit what was previously implicit, namely that the hair is removed and claim 24 has been amended to improve the language, without changing the scope of the claims. Claims 29-40 have been amended mainly so that the features of these claims are added to a number of independent and dependent claims. Except for a few minor amendments to improve the clarity of these claims or to make explicit what was already implicit, no other changes have been made. Claims 41 and 42 are new claims, whose significance is explained below.

All of the claims stand rejected under 35 U.S.C. §102(b) as being anticipated by Chen, et al. (U.S. Patent No. 5,814,008). Applicant submits that Chen et al. does not provide a *prima facie* case of anticipation for any of the independent claims (which are the same as claims that were rejected as being anticipated in the office action) and by derivation and for additional reasons, the dependent claims. Applicant notes that Chen teaches heating prior to, during and after PDT therapy together with electromagnetic irradiation for PDT treatment.

Generally speaking PDT therapy comprises the irradiation of a chemical in a compound at the site, to cause a change in the chemistry which affects the tissue. Although Chen appears to be silent as to the exact nature of his PDT therapy, in one popular therapy for the use described, free radicals are created which attack the cancer, selectively, because of the increased concentration of the injected drug thereat. In fact, it appears from the patent that a very low level light process is utilized as described in the background at col. 1, lines 43-54.

Applicant submits that there is no significant heating of the target area with the PDT therapy. When one takes into account that this is a low level treatment and that there is blood flowing (enhanced by the first heating) which removes even the small amount of energy absorbed by the target tissue, there would not be any significant temperature increase of the target area above that provided by the heating step in Chen. The energy at the lowest levels indicated at col. 1 lines 43-54 (which is what Chen is trying to achieve *inter alia* by the pre-heating), is less than 6% of the energy delivered by sunlight at noon at the equator on a clear day. Moreover, since this energy is applied only to a very small area, there would hardly be any sensation or heating. With the increased blood flow caused by the preheating, the effect would indeed be negligible.

Claims 41 and 42 have been added to further define the invention. These claims require that the second temperature (of the target area) be substantially higher than that of the surrounding tissue. Applicant submits that this is clearly taught by the application as filed.

Independent claim 5 defines the target as being heated to a temperature over 70°C. There is no explicit teaching of the temperature of the target in Chen. However, considering that what is described as the heating operation (the first operation) heats all of the tissue to no more than 45°C, and the only other possible heating is the heating caused by the irradiation of the PDT process, using LEDs, there is little chance and certainly no teaching, that the target will be heated to such a high temperature, especially since a higher temperature for a long period, may cause tissue damage. Dependent claim 30 contains this same limitation and is not *prima facie* anticipated or obvious for the same reason.

Independent claim 7, requires heating the surrounding tissue to a temperature of between about 55°C and 65°C. In Chen et al., the temperature is at least 10°C (45°C maximum) lower. Applicant notes that Chen heats the tissue for 20-60 minutes at this temperature and a higher temperature for this long time period, could cause damage to the tissue. Dependent claim 32 contains this same limitation and is not *prima facie* obvious for the same reason.

Independent claim 10 requires that the electromagnetic energy used to heat the surrounding area be pulsed. There is no teaching in Chen of this feature. In Chen, the dependent claim 33 contains this same limitation and is not *prima facie* obvious for the same reason.

Independent claim 14 contains the limitation that the electromagnetic radiation used for selective heating is provided by a filtered broadband electromagnetic source. There is no teaching in Chen of this feature. For the purpose of Chen, use of a laser, which delivers all of the energy generated at a single wavelength that causes the desired reaction, is ideal. The use of a filtered broadband source for PDT would not seem to be at all obvious. Dependent claim 35 contains this same limitation and is not *prima facie* obvious for the same reason.

Independent claim 23 limits the method to the heating of hair and independent claim 24 limits the method to a dermatologic treatment. Neither of these is taught by Chen, which teaches a treatment for cancer.

Dependent claims 15 and 36 require that the electromagnetic source of claims 14 and 35 is a flash lamp. There is no teaching of this limitation in Chen.

127/02185 A06

As to the double patenting rejection, applicant will file a terminal disclaimer when patentable subject matter is indicated in the application.

Applicant did not receive a 2-page PTO-1449 form, filed in a First Supplementary Information Disclosure Statement on March 22, 2002, initialed by the Examiner in return. Applicant is resubmitting the form herewith and respectfully requesting that the items listed thereon be initialed by the Examiner to ensure that they appear on the face of the patent issuing on the present application. Applicant assumes that the art has already been considered by the Examiner in accordance with MPEP §1893.03.

In view of the above remarks, applicant submits that the claims are patentable and that the application is ready for allowance. Notice to that effect is respectfully solicited.

Respectfully submitted,
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September 7, 2004
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